

METHODS FOR PREPARING SAMPLES FOR ATOM PROBE ANALYSIS

ABSTRACT OF THE DISCLOSURE

The present disclosure provides methods for preparing samples for atom probe analysis and methods for analyzing such samples. In one exemplary implementation, a surface of the sample may be positioned with respect to a laser source and laser energy may be directed from the laser source toward the sample surface, removing material from the sample to define an annulus about a sample column. The sample column may be provided with a reduced-diameter apex at its outward end, e.g., by etching. This apex may be juxtaposed with an electrode of an atom probe and material may be selectively removed from the apex for analysis by controlling energy delivered to the apex, e.g., by the electrode.